

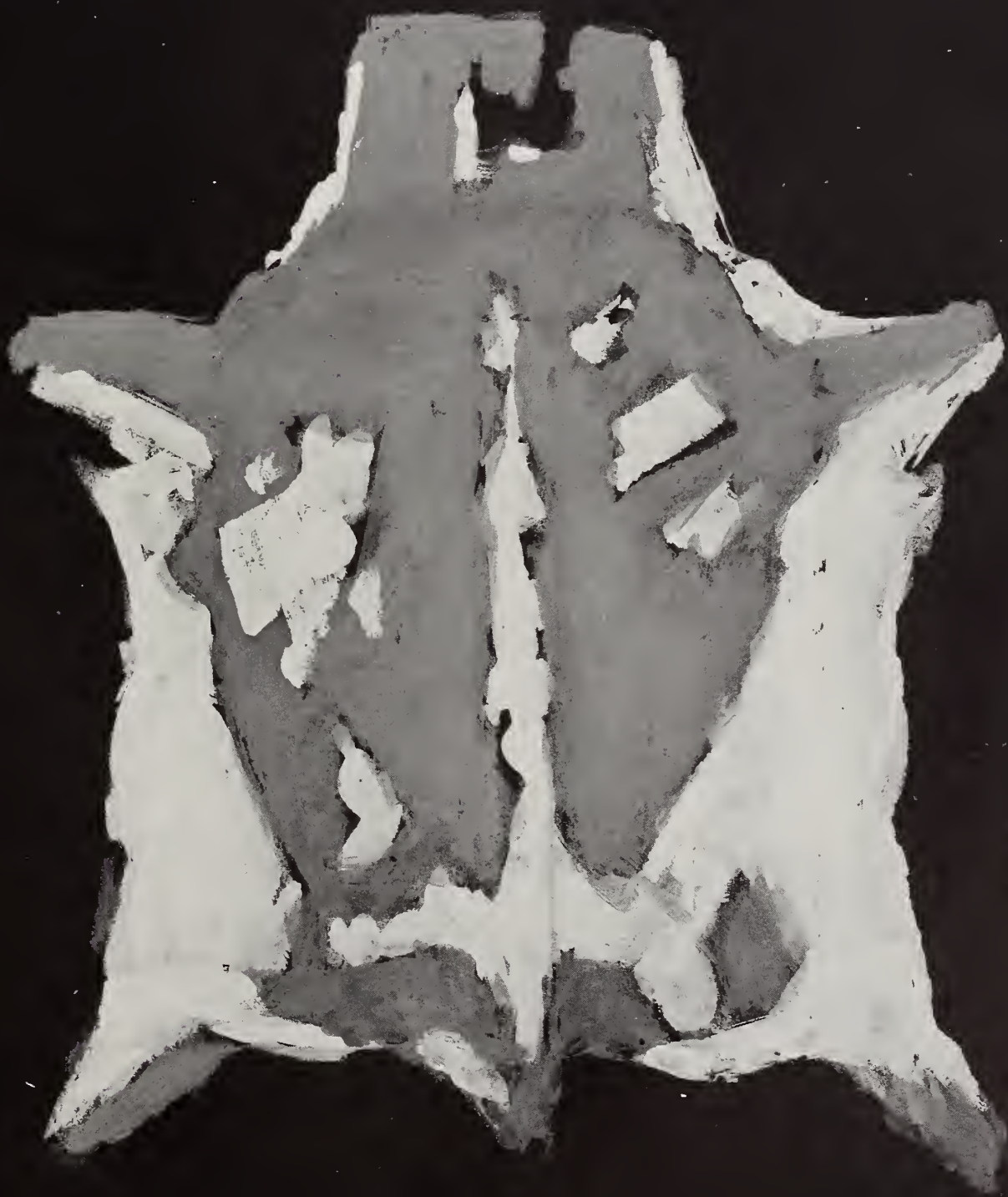
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THE FARM INDEX

ECONOMIC RESEARCH SERVICE * U.S. DEPARTMENT OF AGRICULTURE * FEBRUARY 1965



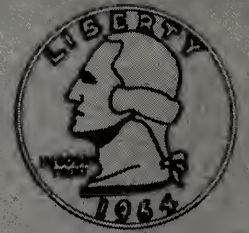
HIDES: MORE PROFIT FROM THE PARTS?

also in this issue . . . CAPITAL QUANDARY -

Rx FOR GROWING PAINS - P.L.480: SHIP TO SHARE AID



Economic Trends



ITEM	UNIT OR BASE PERIOD	'57-'59 AVERAGE	1963		1964		
			YEAR	DECEMBER	OCTOBER	NOVEMBER	DECEMBER
Prices:							
Price received by farmers	1910-14 = 100	242	242	237	236	234	234
Crops	1910-14 = 100	223	237	241	232	232	234
Livestock and products	1910-14 = 100	258	245	234	239	236	234
Prices paid, interest, taxes and wage rates	1910-14 = 100	293	312	311	312	313	313
Family living items	1910-14 = 100	286	298	298	300	301	301
Production items	1910-14 = 100	262	273	270	269	269	269
Parity ratio		83	78	76	76	75	75
Wholesale prices, all commodities	1957-59 = 100	—	100.3	100.3	100.8	100.7	100.8
Commodities other than farm and food	1957-59 = 100	—	100.7	101.2	101.5	101.6	101.8
Farm products	1957-59 = 100	—	95.7	93.3	93.8	94.0	92.8
Food, processed	1957-59 = 100	—	101.1	100.4	101.7	100.9	100.8
Consumer price index, all items ¹	1957-59 = 100	—	106.7	107.6	108.5	108.7	—
Food	1957-59 = 100	—	105.1	105.4	106.9	106.8	—
Farm Food Market Basket: ²							
Retail cost	Dollars	983	1,013	1,010	1,022	1,018	—
Farm value	Dollars	388	374	359	380	378	—
Farm-retail spread	Dollars	595	639	651	642	640	—
Farmers' share of retail cost	Per cent	39	37	36	37	37	—
Farm Income:							
Volume of farm marketings	1957-59 = 100	—	115	131	175	157	137
Cash receipts from farm marketings	Million dollars	32,247	36,925	3,425	4,603	4,104	3,585
Crops	Million dollars	13,766	17,045	1,886	2,620	2,325	1,914
Livestock and products	Million dollars	18,481	19,880	1,539	1,983	1,779	1,671
Realized gross income ³	Billion dollars	—	41.7	—	—	—	42.5
Farm production expenses ³	Billion dollars	—	29.2	—	—	—	29.2
Realized net income ³	Billion dollars	—	12.5	—	—	—	13.3
Agricultural Trade:							
Agricultural exports	Million dollars	4,105	5,585	588	571	608	—
Agricultural imports	Million dollars	3,977	4,011	367	348	382	—
Land Values:							
Average value per acre	1957-59 = 100	—	—	128 ⁴	135 ⁵	137	—
Total value of farm real estate	Billion dollars	—	—	148.7 ⁴	154.9 ⁵	157.8	—
Gross National Product ³							
Consumption ³	Billion dollars	456.7	583.9	599.0	—	—	633.5
Investment ³	Billion dollars	297.3	375.0	381.3	—	—	406.2
Government expenditures ³	Billion dollars	65.1	82.0	87.1	—	—	90.5
Net exports ³	Billion dollars	92.4	122.6	124.8	—	—	130.3
	Billion dollars	1.8	4.4	5.8	—	—	6.5
Income and Spending: ⁶							
Personal income, annual rate	Billion dollars	365.2	464.1	477.1	498.7	502.3	505.7
Total retail sales	Million dollars	17,105	20,536	21,019	21,383	21,631	22,808
Retail sales of food group	Million dollars	4,159	4,929	4,991	5,229	5,258	—
Employment and Wages: ⁶							
Total civilian employment	Millions	64.9	68.8	69.2	70.3	70.7	70.9
Agricultural	Millions	6.0	4.9	4.9	4.7	4.7	4.5
Rate of unemployment	Per cent	5.5	5.7	5.5	5.2	5.0	4.9
Workweek in manufacturing	Hours	39.8	40.5	40.7	40.5	40.9	41.1
Hourly earnings in manufacturing, unadjusted	Dollars	2.12	2.46	2.51	2.53	2.56	2.58
Industrial Production ⁶							
	1957-59 = 100	—	124	127	132	135	137
Manufacturers' shipments and inventories: ^{6, 7}							
Total shipments, monthly rate	Million dollars	28,736	34,774	36,021	36,811	37,575	—
Total inventories, book value end of month	Million dollars	51,158	58,807	60,147	61,777	62,287	—
Total new orders, monthly rate	Million dollars	28,374	35,036	35,619	37,846	37,682	—

¹ Beginning Jan. 1964, new series. ² Average annual quantities of farm food products based on purchases per urban wage-earner and clerical-worker households in 1960-61—est. monthly. ³ Annual rates seasonally adjusted 4th quarter. ⁴ As of November 1. ⁵ As of July 1. ⁶ Seasonally adjusted. ⁷ Revised series. Sources: U.S. Department of Agriculture (Farm Income Situation, Marketing and

Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Department of Commerce (Industry Survey, Business News Reports, Advance Retail Sales Report and Survey of Current Business); and U.S. Department of Labor (The Labor Force and Wholesale Price Index).

"High on the hog" may not be the usual way to talk about a bright price outlook for **pig** producers, but to them the cliché may fit all right.

Production has been down and prices firm this winter, and a similar story is likely at least into midsummer. In fact, pig price worries may not show up at all this year.

Smaller pig crops began appearing last year in response to price weakness. The pig crop last June-November was off 8 per cent from a year earlier. As a result, winter and spring slaughter supplies are likely to be off 5 to 10 per cent from the same period a year ago.

In line with the prospective reduction in slaughter, first quarter hog prices may be moderately above the January-March 1964 average of \$14.63 per 100 pounds (barrows and gilts, eight markets). A little seasonal weakness may show up in early spring, but prices should hold above 1964 levels.

Much of what happens to prices in the second half of 1965 depends on the size of the current December-May pig crop. In December, producers said they planned to farrow 7 per cent fewer sows than in December-May last year. If they carry out their intentions, production will be off and prices probably strong well into the last half of the year.

Even if the price outlook leads farmers to expand production above their December plans, the price effect probably will not show up until late this year or early in 1966.

A year ago, the **cattle** feeder was wondering what to do with animals he had ready to sell. He faced a \$22 market for Choice steers he had fed for months, after paying \$25 per 100 pounds to get them.

Today, he is probably wishing he had more steers to sell. The fed cattle situation has



completely reversed itself in a year. Choice feeder steers at markets last summer and fall were costing \$20 to \$22 per 100 pounds; choice fed steers this winter are selling considerably higher.

Price strength in fed cattle markets will probably hold well into spring. Fourth quarter 1964 prices averaged \$24.50 (Choice steers, Chicago). First quarter 1965 prices are running a little higher.

The recent cattle on feed report showed January 1 numbers to be 1 per cent above a year earlier, but there were 10 per cent fewer heavyweight cattle. Market weights have been running below a year earlier; a continuation of lighter-weight marketings is expected, limiting beef production.

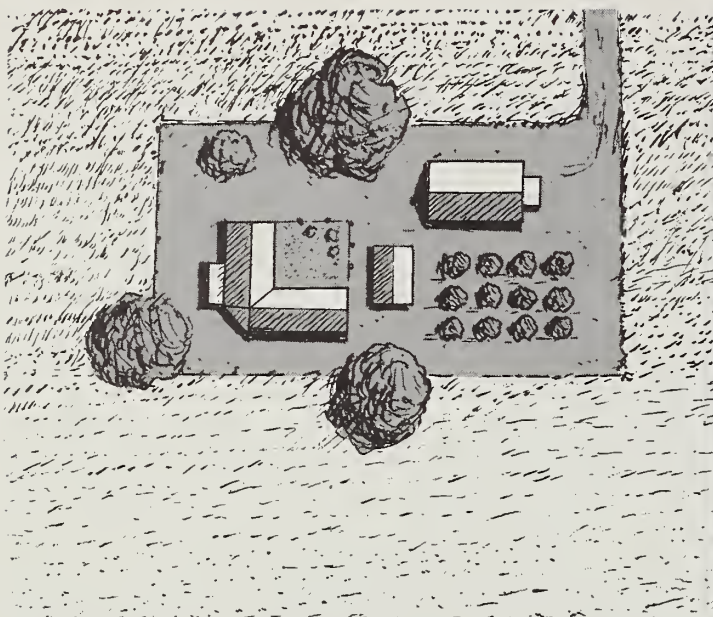
Lamb prices have also been strong. They will probably remain above 1964 levels through the first half of 1965.

Slaughter lamb prices were higher in late 1964 and early 1965 than they have been at this season in several years. Choice slaughter lambs brought \$20.53 per 100 pounds at Denver in the week ended January 2, up from \$18.69 a year earlier. Feeder lamb prices were also higher than in late 1963.

Price strength is indicated by the 9 per cent drop from a year earlier in numbers of sheep and lambs on feed January 1. Winter wheat grazing has been sharply reduced; January 1 numbers on wheat pastures in Kansas, Oklahoma and Texas were off 47 per cent from last year.

The seeded acreage report for the 1965 **wheat** crop indicated farmers put about 45 million acres in winter wheat—the most in over a decade and 2 million above last year. Reductions in the Corn Belt were more than offset by a large expansion in plains and western states.

the agricultural outlook



PLENTY OF CAPITAL NEEDED TO GET STARTED
ON A MONTANA WHEAT FARM ¹

Size of model farm	Full owner	Part owner		Full tenant
		A ²	B ³	
Acres		Triangle area		
1,156	\$36,563	\$26,591	\$24,378	\$13,706
1,640	49,253	35,105	31,977	16,821
2,550	70,492	46,061	36,985	20,435
		Northeast area		
1,156	29,169	21,730	20,079	12,005
1,640	38,878	28,324	24,992	14,605
2,550	56,217	37,997	31,242	18,659

¹ Includes downpayments on land and buildings and machinery, depreciation and total cash and family living expenses during the first year. ² More cropland owned than rented. ³ More cropland rented than owned.

CAPITAL QUANDARY: COST OF LAND VS. RETURNS

The cost of cropland in Montana, and elsewhere, since 1910 has risen so much faster than returns per farm that farmers may soon have to accept the prospect of permanently leasing their property from nonfarm businesses

Once upon a time, a young man who wanted to be a farmer started out as a hired hand. He saved his pay to buy used machinery and a few head of stock so he could become a tenant. Then he worked until he acquired enough cash to make a downpayment on his own land. When the mortgage finally was paid, he had reached the top of the agricultural ladder.

This idealized road to success still exists on the farm scene but the situation appears to be changing. The capital required to finance a farm business—particularly the cost of farmland—has grown so much faster than farm earnings that farmers in some areas are finding they can't save enough to become debt-free owners in their lifetimes. This is especially true of farmers in wheat-producing areas known as the Triangle and Northeast sections of Montana.

In a study of how dryland grain farmers accumulate capital and acquire land, 192 Montana wheat producers supplied information

on their operations as far back as 1910. The research was done by ERS in cooperation with the Montana Agricultural Experiment Station. When the farmers were surveyed in 1960, about one-fifth were full owners, a little less than two-thirds were part-owners and the rest were full tenants.

From a review of the land tenure histories of the Montana farmers, three distinctive time periods developed—1910 to 1940, 1940 through 1949, and 1950 through 1959. For the 1910-20 era, homesteading was often mentioned as a method of acquiring farmland. During the 1920s, many farmers were still floating on a tide of prosperity from the war years and were able to buy land and hold it through the depression of the 1930s. From 1940 on, and particularly from 1950 on, most young men reported renting all their land at first. However, numerous methods of obtaining land were mentioned throughout the four decades covered by the study. Often a farmer said he had

acquired land in several ways.

The shift from buying to renting land during 1910-60 can be attributed largely to the increased cost of land and to the rise in the amounts and prices of the other purchased inputs used in farming. For example, over half of the farmers who started out prior to 1940 had less than \$4,000 in capital (owned and borrowed). From 1940 to 1949, the comparable figure was close to \$8,000 and from 1950 to 1959, around \$12,000.

The average price farmers paid for land in the Triangle area was \$11 an acre in the 1920s. During the 1950s, they reported prices had averaged \$70 an acre and they estimated local prices at the time of the survey to be as high as \$115. In the Northeast area, prices averaged \$17 an acre in the 1920s, \$52 in the 1950s and as much as \$107 currently.

Land contracts were most often used to finance land purchases by respondents. Federal land bank loans also were widely mentioned.

In addition to the cash they

put up themselves and the funds they borrowed, many farmers in Montana reported assistance from relatives, usually their fathers. Generally this help was in the form of machinery, gas, oil, seed, sharing expenses for custom operations and, in several cases, gifts or purchases of land.

Although mushrooming land values were largely responsible for the rapid rise in starting capital needed by Montana grain producers, other factors contributed. These included changes in the forms of capital investment (like tractors instead of horses), changes in the availability of credit (government agencies entered the picture), upgrading of living standards (farmers' wives wanted modern conveniences) and the upswing in the average size of farm. The latter shift is documented by the change in average size of farms held by respondents when they started out—around 500 acres prior to 1940 compared with more than 1,000 acres after 1950. Roughly three-fourths of the men surveyed had enlarged their land holdings since they began farming.

To examine the relationships between farm capital requirements and farm incomes, researchers used the information from the respondents in Montana to set up model farms. The examples were cash-grain farms operating within the provisions of the 1960 Wheat Program. Under these terms, the wheat allotment was set at 70 per cent of the wheat base or half the cropland. The diverted acres were to be seeded to barley and the remaining land fallowed. Yields were assumed to be average for the area.

The specialists assumed that the producers owned 20 per cent of their equity in land and buildings and one-third of their equity in machinery. The remaining capital was borrowed. Leases on rented land were on crop shares, a fourth to the landlord and three-fourths to the tenant.

The real estate debt was to be retired in 30 years and was amortized at 5.5 per cent interest. Machinery debt was to be retired in 5 years amortized at 8 per cent. Interest on owned assets was figured at 5.5 per cent. Family living expenses were set at a minimum of \$2,400 a year.

Under the conditions listed, about the only way a farmer could get started is as a full tenant. Even so, a man with around 1,200 acres of cropland would have to use his depreciation allowance and return to investment to meet the payments on his machinery. With 1,600 acres or more rented, the farmer, after paying all his expenses, could hope to accumulate some extra capital to buy land.

When cropland holdings were pushed up to the 2,500 acre level, both part-owners and tenants would have a chance to save something for future expansion. Under the assumptions given, a full owner had very little chance to save capital ahead regardless of the size of farm. The magnitude of his dilemma is illustrated by the amount of funds the researchers found he would need just to get through the first year—a whopping \$49,000 for all production and living expenses on an operation with 1,600 acres of cropland. A full tenant would need about \$17,000 for the first year on the same size farm.

With the need for capital as it exists in agriculture (and prospects are for the requirements to continue growing rapidly), farmers will have to depend more and more on capital from the nonfarm sector of the economy. This shift may mean that more farmers will be borrowing funds or leasing land from owners outside agriculture. Although this practice is contrary to tradition for farm people, it is far from new to other businessmen. They often expect the process of acquiring full ownership of assets to take more than the life span of an owner or corporate officer. (1)

Hands Beyond the Plow

Many older men still farming can easily recall the day when farms were nearly self-sufficient. Little was purchased in town, either for the home or for use in producing crops and livestock.

But the so-called good old days are gone. Modern farmers are highly dependent on all kinds of purchased inputs—things like feed, fertilizer and machinery repair parts, to name a few.

As the number of farmers declines, those who remain in business step up their productivity. This is possible because machines can be substituted for labor, and chemicals like fertilizer and insecticides increase yields per acre.

During the 1950s, farm employment declined 28 per cent and farm output went up 23 per cent. As a result, the use of purchased inputs became more important.

While the drop in the number of farmers and the gain in farm productivity have been well publicized, the figures on employment in the industries supplying the agricultural inputs haven't been available. Such data are hard to get because the industries manufacturing inputs often are supplied by other intermediate and basic industries. This makes it difficult to figure exactly how many persons are really involved in the manufacture of an input.

Specialists in ERS recently came up with some figures to fill the gap by limiting their estimates to final manufacturers only. They found that manufacturers as well as farmers modernized their operations by increasing capital investments during the decade of the fifties. The number of persons employed in the final manufacture of farm supplies and equipment dropped 31 per cent, from 414,000 in 1950 to 285,000 in 1960.

Between 1950 and 1960, farmers stepped up purchases of fertilizer and lime, feed, petroleum and oil, machinery repair items, hardware hand tools, pesticides, veterinary medicines, greenhouse and nursery supplies and dairy items. Yet except for a few hundred more workers in firms manufacturing veterinary medicines and in the greenhouse and nursery supply industry, increased sales in most groups were achieved with fewer employees. (2)

PICK A PROCESSING SYSTEM

Hog feeds have come a long way since the days when the kitchen slops and a few ears of corn were tossed into the pen. The modern hog producer serves up an array of complete feeds, each tailored to the specific needs of hogs in different stages of growth and maintenance.

The choices the farmer has for preparing hog feeds are just as bewildering as the number of feed formulas he can use. First, he must decide whether he will process the feed himself or if he can cut his feed costs by using a custom operator.

The decision to farm or custom process is only the beginning. If the farmer decides to use custom feed preparation, he must choose an operator to do the job for him. If he makes farm processing his choice, he has a number of alternatives in equipment. Obviously, the solution is to consider the advantages and disadvantages of each method of processing hog feeds before investing in one. Here are some of the points he should think about. The information is part of a recent study of a group of midwestern hog producers, conducted by ERS and the University of Illinois.

LOCAL FEED MILL

Cost per ton

\$2.52 to \$5.58,

regardless of volume processed.



CUSTOM PROCESSING. The farmer has three choices here—a local feed mill, a grain bank (in some midwestern areas) or a mobile mill.

A farmer usually hauls his grain to a local feed mill to be

ground and mixed with a commercial protein supplement. In the Illinois study, the typical ration averaging 82 per cent grain costs anywhere from \$2.52 per ton to \$5.58 per ton, including process-

MOBILE MILL

Cost per ton

Probably from \$2.50 to \$4, regardless of volume.



ing and transportation to and from the mill.

On the plus side, the local feed mill is probably the cheapest method for a producer with a small volume, particularly if he uses several different feeds. Custom processing also makes it simple to mix small batches of different rations and try them out. And custom milling is the only practical means for all but a large-volume producer to process pelleted feeds.

The main disadvantages of using local feed mills are the relatively high costs for medium- and large-scale hog operations compared with farm processing, and the limitation of getting the job done during the mill's regular operating hours.

The grain bank is most attractive to the small hog producer who hasn't enough grain storage on his farm. Grain bank customers generally are allowed to bank up to 20 per cent of their annual feed grain needs at a time (providing the corn balance doesn't exceed 2,500 bushels). This makes it convenient to haul grain at a time when other farm work isn't pressing.

Most grain banks provide delivery service as well as storage

of grain and processing of feed. This may save the farmer without a truck of his own both time and money.

However, the grain banks usually require the farmer to buy his protein supplement from them. When the price of the supplement is set at bag rates, the cost is usually higher than buying in bulk.

Charges typical of grain banks total \$5.03 per ton of feed for storage of grain, processing and delivery of complete feed to the farm (assuming the usual minimum four-ton load and three miles travel).

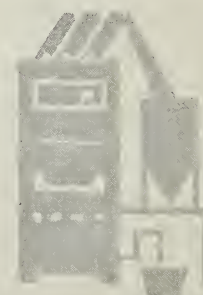
Farmers in many areas also can use the services of mobile mills—custom feed processors who travel from farm to farm with a mill mounted on a truck. These operators will grind the farmer's grain, mix the ration and put it in a wagon, truck, bin or directly into the feeders. The processor will sell protein supplement and feed additives to the farmer or he can supply them himself.

Mobile mills free the farmer from the chores of grinding and mixing rations and eliminate the time and expense of hauling to

ELECTRIC MILL

Investment—\$2,063 to \$3,292

Tons	Cost per ton
400	\$1.66
1,200	1.04
2,000	.93



and from a local mill or grain bank. However, the rates charged generally are higher per ton than on-farm processing methods. Farmers with medium- or large-size operations probably would pay less for processing with their

choice of available equipment.

ON-FARM PROCESSING. Most on-farm methods are economical for a medium or large producer. The choices include electric mills, tractor mills and batch mixers, mobile grinder-mixers and grinders with mixer-wagons.

The stationary, electrically-operated mills measure, grind and

hammer mill and an electrically-operated batch mixer. Mills and mixers come in a variety of sizes with those generally in use costing from \$400 to \$700. An additional outlay of \$100 to \$300 is necessary for conveyors.

Tractor-driven mills and batch mixers have the advantage over electric mills of being mobile. This is particularly important to tenants who may want to move to another farm and take the equipment. This feature also makes it easier to distribute feed, compared with the electric mills and mobile mixers. Having the grinder and mixer as separate units means a saving in operating costs when processing a feed that doesn't require mixing.

Another plus for tractor-driven mill combinations is a high rate of output compared with electric mills. This rapid output permits the farmer to grind several days' supply of feed when he has the time. Tractor mills will grind ear corn and roughages, too, which means they can process dairy and beef rations as well as hog feeds.

On the minus side, the mobile equipment requires one or more operators in constant attendance. Unless the farmer buys conveyors or augers, it's hard work moving the grain into the mill, measuring ingredients and placing them in the mixer, then transferring the

much higher than those for the electric mill. And the tractor can't be used for other farm work while grinding feed.

Farmers can also buy a tractor-powered mobile grinder-mixer. This equipment can grind and mix feed and then deliver it to the feeders in one operation. Mobile grinder-mixers are especially use-

TRACTOR MILL— BATCH MIXER

Investment—\$1,550

Tons	Cost per ton
400	\$2.52
1,200	1.86
2,000	1.64



mix feed ingredients simultaneously. For this reason, they are ideal for a completely mechanized feeding system that moves feed from storage to hogs continuously. Such a system can operate for hours unattended and service 4,000 to 5,000 hogs. When volume is this high, operating costs per ton are quite reasonable because the high overhead is spread over more tons of feed.

The chief disadvantage of electric mills is the relatively high initial cost. And installation often means additional bins, a new building to house the equipment and re-wiring of the existing electrical system. The mill alone commonly costs from \$1,000 to \$1,200 and the extras (a new feed house and storage) can run the bill up over \$3,000.

Assuming all new facilities are required, the annual costs of owning and operating an electric milling system in Illinois ranged from \$6.42 per ton for processing 50 tons to 48 cents at a volume of 2,500 tons.

Another disadvantage is that small electric mills aren't adapted to handling ear corn or roughages.

A stationary farm feed processing setup can also be developed around a tractor-powered burr or

MOBILE GRINDER —MIXER

Investment—\$2,000

Tons	Cost per ton
400	\$1.80
1,200	1.20
2,000	1.08



finished feed into the bins or feeders. And the mobile mill and mixer aren't designed to fit into a completely automated system.

Finally, the out-of-pocket expenses for power to operate a three- or four-plow tractor are

GRINDER—MIXER WAGON

Investment—\$1,600

Tons	Cost per ton
400	\$1.80
1,200	1.20
2,000	1.08



ful on farms where the grain storage and feeding areas are scattered. A three- or four-plow tractor can operate the unit and the output rate is relatively high. The mill unit will take ear corn and roughages as well as shelled corn and small grains.

High on the list of disadvantages for mobile grinding units is the cost—from \$1,800 to \$2,200. Processing is a daily chore with mobile grinder-mixers and they also prevent using the tractor elsewhere. Another minus is the measuring of ingredients, a job done automatically by electric mills.

The feed grinder with mixer-wagons combines a tractor-powered burr or hammer mill and self-unloading wagons. This equipment is easily moved around like the tractor-powered mobile grinder-mixer. It has the further advantage of separate components, so a breakdown in one unit doesn't stop the whole operation.

The mixer-wagons usually can be used for other jobs. Some models are partitioned so they can carry more than one kind of feed at a time. This also permits the farmer to grind large quantities of feed at one time and distribute it each day as needed. (3)

Dollar Value of Farm Mortgages Gains; Private Banks Led Over-All Rise in '63

Farm-mortgage debt rose 11 per cent during 1963. On January 1, 1964, the total was \$16.8 billion, up \$1.6 billion from the same date a year earlier. The estimate for January 1, 1965, is \$18.7 billion.

The gain in farm-mortgage debt during 1963 varied by type of lender. Private banks reported an increase of 15 per cent in the total value of farm mortgages from January 1, 1963, to January 1, 1964. The federal land banks had a 9 per cent gain in farm-mortgage debt and the Farmers Home Administration (direct loans), 3 per cent. Debt held by life insurance companies rose 7 per cent from 1962 to 1963. Except for the life insurance companies, the rates of increase during 1963 were similar to those in 1962.

Interest rates on farm-mortgage loans were slightly lower in 1963 than 1962. Most of the land banks charged 5.5 per cent. The rates on farm-mortgage loan commitments held by the major life insurance companies averaged 5.75 per cent in 1963 and those for FHA continued at 5 per cent for direct and insured farm-ownership loans.

Farm real estate values also continued to rise in 1963 but not as fast as debt. (4)

Net Income Per Farm in East Texas To Be Nearly a Third Larger by 1970

Average net farm income in the 16 counties of the Blackland Prairies of Texas should be about \$3,000 five years from now, barring any drastic changes in the trends of the last few years. This will be quite a bit better than the \$2,033 figure of 1959.

The prediction comes from an ERS study that also sees a 43 per cent drop in the number of farms

from 1959 to 1970 and a 27 per cent decline in cropland. According to the study, the average age of farm operators will continue to increase. Forty-six per cent were over 55 in 1959; 58 per cent will be over 55 in 1970.

All three major tenure groups will lose farm operators from 1959 to 1970. Full tenants will decline most rapidly, by about 65 per cent. Sharecropper tenancy will become almost nonexistent. Full owners, though their number will decrease, will operate a larger percentage of farms. Part-owners, though fewer in number, will substantially increase the percentages of farms, farmland and cropland they control.

Only farms of 260 acres and over will increase in numbers, from 26 per cent of the total in 1959 to 53 per cent in 1970. (5)

Rice Yield and Output Set New High; Prospects for Even Larger 1965 Crop

Rice producers boosted output a little higher in 1964 and thereby broke their previous record of a year earlier. Production totaled 73.1 million hundredweight, up 4 per cent from the 1963 level.

Yields per harvested acre, averaging 4,095 pounds, were largely responsible for the new mark. These yields were 127 pounds above 1963.

The national acreage allotment for the 1965 rice crop has been set at 1.82 million acres, about the same as for the 1964 crop. The national average support price has been pegged at \$4.50 per hundredweight of rough rice, 21 cents under that for the 1964 crop.

Even though the support price is somewhat lower for 1965, the steady upward trend in yields will tend to maintain producers' returns at the levels of recent years.

In the January 26 referendum, producers approved marketing quotas for the 1965 crop, according to a preliminary count of ballots on January 27. (6)

Hired Hands Still Needed to Produce Fruits and Vegetables in Near Future

Hired labor is something the farmer generally would like to do without. In recent years, he has often been able to substitute machines for muscles.

But many farm enterprises, particularly fruits and vegetables, still don't lend themselves to widespread use of farm machinery. In the major areas where these crops are produced, supplemental hired labor will continue to be a necessity—even with additional gains in output per man-hour and adaptation of mechanical power to special kinds of jobs.

Like the number of farm operators, the number of hired workers has declined in recent years, although less rapidly than operators. Between 1953 and 1963, family workers (including operators) on farms dropped 30 per cent. The number of hired workers declined 15 per cent.

By 1968, 18 per cent fewer farm operators are expected to be in business compared to 1963. The decline for other family workers will be 30 per cent. However, hired farm workers are likely to be reduced only 5 per cent within the next three years.

Although less help will be needed, farmers still are likely to have problems recruiting workers. The difficulty arises because most young men reared off the farm (and many farm boys, too) find both the work and the pay on farms unattractive. Despite the steady 2 to 3 per cent rise in farm wage rates each year, they remain substantially below pay in manufacturing and construction, about 40 per cent lower than wages in retailing, and about one-fourth below the average for laundry and dry-cleaning help.

The wage gap has grown wider, too. From 1950 to 1963 farm wage rates rose only 52 per cent, while hourly wages in manufacturing went up about 70 per cent. (7)

A Tour of Duty in a City Job Is Way More Young Farmers Get Needed Cash

It's an even bet that today's farmer got his start with help from his own family, one way or another. Even so, an increasing number of young farmers start out with money they earn off the farm.

A recent study conducted by Michigan State University in co-operation with the Economic Research Service traces the financial history of a panel of Michigan farmers.

The farmers in the study were ranked according to length of time they had been in farming. The first group started before World War II, some as long ago as 1916. The second made their start during the war, or just after it.

The third group began farming between 1949 and 1954, when, except during the Korean conflict, agricultural prices were on the decline. The remainder got started between 1954 and 1961.

A little more than half the youngest group of farmers got part of their starting capital by working on the family farm. Some 12 per cent of the young farmers took over their fathers' farms and 6 per cent were helped by other gifts or inheritances. Forty-four per cent of the young farmers got part of the cash they needed from nonfarm jobs. Some, of course, got their initial capital from more than one of these sources.

The percentages indicate significant changes from the past. Fewer of the older farmers got their starting capital by working in nonfarm jobs and more of them obtained it by working as hired farm workers or on the family farm.

About half of all the farmers in the study started farming by renting land, either in whole or in part. The renters were in control of more land when they began

than the non-renters controlled when they started out.

By 1961, most of the farmers who started as full renters, including the newest group of farmers, owned some of their property. Many of the owners, however, continued to rent additional acreage.

Today's farmers are starting out with far greater assets than their fathers did. The men who started farming before 1941 began with assets of about \$6,200; the group starting most recently had more than \$20,000 in assets as a beginning.

The average farm in the area increased 40 per cent in size between 1935 and 1961. The value per acre in the same period mushroomed from \$43 to \$196.

The amount of debt the farmers start out with is increasing, too. Real estate debt for farmers who started most recently averaged nearly five times as much as beginning real estate debts for the oldest group. And non-real estate debts for the youngest group were about 50 times as large.

Non-real estate debt was only 6 per cent of total debt for farmers who started before World War II, but over 42 per cent for the men who got their start in farming after 1954.

In fact, non-real estate credit has become more important for all groups of farmers. By 1964, non-real estate debt was about 40 per cent of total debt for the oldest group and nearly 50 per cent of total debt for the youngest group. Since non-real estate credit is typically used for livestock, machinery and operating expenses, the growth in this type of credit reflects technological advance and the need for higher producing livestock and up-to-date equipment.

But large amounts of non-real estate debt also mean that farmers today face the problem of meeting relatively rapid repayment schedules on a large part of their total debt. (8)

Migrants to City Find Urban Living No Master Key to Successful Future

When country-bred parents are burdened with a poor education and low-paying jobs, chances are their city-bred children will carry the problems into their own generation.

This is one of the findings of a recent study of how well farm migrants did in Des Moines, Iowa, compared with natives and with migrants from other urban areas.

Farm-reared parents nearly matched the two groups of city-bred parents in recognition of the importance of education and in aspiring to good jobs for their children. But they had not been as successful as the urbanites in translating hopes into reality.

The data in the study didn't show whether the problem was lack of motivation or lack of means—just that the children of farm-migrant parents didn't go as far in school as other children. The proportion of sons of farm-migrant fathers with any education beyond high school was 26 per cent, compared with 59 per cent for sons of Des Moines natives. Of sons with urban-migrant fathers, 36 per cent went on to college or technical schools.

And the strong association between education and occupational status was reflected in the job performance of grown sons. Median occupational status was lowest for sons of farm migrants; highest for sons of natives. Sons of urban migrants ranked in between.

These findings don't tell the whole story, however. Though the families which came to Des Moines from rural areas didn't do as well as the city-bred in terms of education and jobs, they still thought they were better off in the city than on the farm. Three-fourths of the farm-bred couples said that the economic position of their families had definitely improved as a result of the move to Des Moines. (9)

PLANNING

Cities have no monopoly on the "master plan." Rural counties, too, are finding that planning is both an investment in the future and insurance against its problems.

The problems include the big ones faced by every rural community or county that has a city growing its way. Haphazard suburban growth is costly to service; wastes water resources; fosters land use conflicts. Also, it wastes farmland and prematurely impairs the crop production base of local agricultural industries and service trades.

A giant step toward meeting the challenge of growth is the preparation of a master plan.

The master plan is a blueprint that suggests how present and future improvements and land uses should be related. It is usually developed by a county's elected officials with the aid of a professional planner. To be most useful it must be developed with care and kept current.

The plan often consists of two parts: a physical plan and a land use plan.

A county's *physical plan* is concerned with the location and character of future public and semi-public properties. These include roads, bridges, playgrounds and parks, schools, airfields and public utilities. The location of these properties and improvements will have a strong influence on the direction and pattern of growth.

A county's *land use plan* is concerned with the general location of districts for future use for residences, business, industry, farming, forestry, recreation, watersheds, conservation, open space and other purposes.

The first step in preparing a master plan is to make an inventory of what a county already has. This will include maps and charts on public and private improvements; land and other natural resources, both developed and un-

used; business and residential areas; farms and industries; and, most important, the county's people with their many different skills. The next step is to outline current problems and needs and the county's potentials.

More people will bring need for more jobs, convenient places to shop, wholesome districts in which to live, fertile areas for farming and room for recreation. What areas in the county are most suitable for each of these uses? A growing county will need new roads, schools, churches, public buildings, water, sewers and other public facilities. Where might these facilities be located? Sites might be selected with a view to encouraging the fullest use of present and proposed facilities. Unnecessary duplication should be avoided.

Based on this information, the county decides what it wants in the future and prepares the master plan and maps.

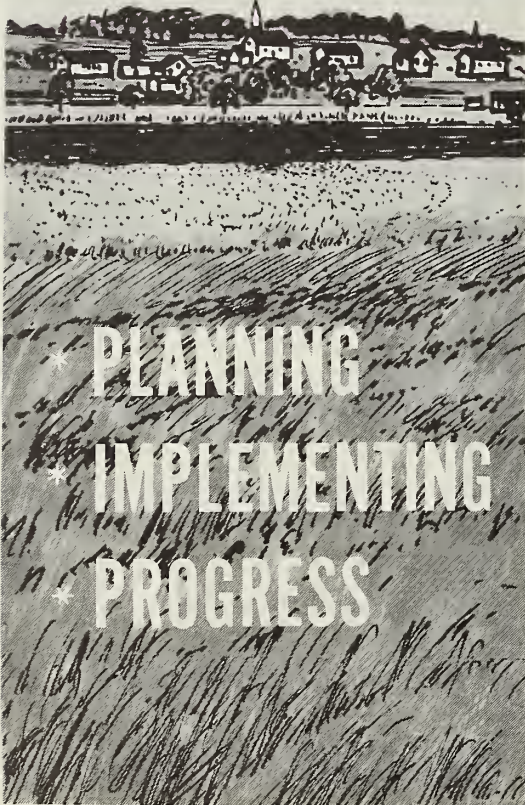
A master plan is carried out in two ways—by government and by private individuals and agencies. Both public improvement programs and private development will need to be oriented toward the over-all objectives. Most construction is done by private builders who develop property for residential, business and industrial purposes. A good plan should receive support from all groups.

Following are six important ways to help make the plan acceptable and workable:

1. Program proposed public improvements for several years ahead, with priorities indicated.

2. Conduct an active educational program. Hold local meetings and use the newspapers and radio to explain the objectives of the plan to all the residents of the county. To work, a master plan requires ordinances and codes that limit the future rights of individuals to use their land as they see fit and affect its resale value. Landowners have a right to a public hearing and may always ap-

Rx for Growing Pains



peal to the courts for redress. The success or failure of the plan will depend on the understanding and consent of the people affected.

3. Pass a sound subdivision ordinance. This regulates the way raw land is subdivided into lots or tracts and made ready for development. Subdividers are often required to construct streets, curbs and sidewalks and to install sewers, water mains, and other utilities and services.

4. Pass a good building code. This provides minimum standards and regulations for assuring safe and stable design, methods of construction and use of materials and equipment. A building code also assures safe maintenance, use and occupancy.

5. Pass a sanitary code. Sanitary or plumbing codes require minimum standards of workmanship and materials in the installation, alteration, maintenance and repair of water, sewage and gas lines in homes, other buildings.

6. Pass a good zoning ordinance. (10)

IMPLEMENTING

Urban sprawl is unlovely, uneconomical and unnecessary. And no community granted zoning powers by its state legislature need accept ugliness or waste as the price of growth.

A good zoning ordinance is the most useful formal tool for guiding the many developments of private builders into the over-all pattern a growing community wants.

Traditionally, zoning has been used by both urban and rural governments to: prevent congestion in the streets and overcrowding on the land; promote health, safety and the general welfare; provide adequate light and air; and make it easier to provide transportation, water, sewers, schools, parks and other public facilities.

Today, as more and more communities prepare for the future with carefully drawn master

plans, the role of zoning has expanded. Local governments now use zoning to: promote orderly growth; conserve and develop natural resources; and preserve historic and scenic attractions. Additionally, they are zoning to foster industry and agriculture, including preventing soil erosion, conserving soil fertility and protecting the food supply.

Zoning is "the regulation by districts under the police power of the height, bulk and use of buildings, the use of land and the density of population." This definition embraces the four main groups of zoning regulations: (1) building size; (2) building tract (area); (3) density of population; and (4) use.

The first three types of zoning regulations help assure adequate light and air around buildings, prevent overcrowding and provide most other safeguards traditionally associated with zoning ordinances.

But the most important powers under zoning ordinances come through the "use" regulations. Separate districts can be established for homes, farming, business, industry, forestry, recreation, flood control, conservation and so on, depending on the needs of the individual community.

An example of how these use regulations work is in solving a community's water problems. The problem may be too little water, too much water, or water that is polluted.

To protect urban water supplies, two county zoning ordinances in Washington State have established watershed zoning districts. Only forestry and a few related uses authorized by health authorities are allowed. In other states, such districts reserve mountainous and hilly land for water production, forestry, wildlife and recreation. Regulations aim to protect these lands from fire, erosion, soil compaction and pollution and, in one of the newer uses of zoning, to protect scenic

attractiveness in the watershed.

Pollution of streamflows that are used for irrigation and domestic purposes has been avoided in some states by zoning upstream watersheds for agricultural uses, allowing residential use only when each house is surrounded by several acres of open land. The same regulations can prevent preemption by subdivisions of scarce reservoir sites. Many suburbs use zoning measures to regulate or to bar the use of septic tanks.

Flooding, too, has been fought with zoning ordinances. In Rhode Island, for example, towns may prohibit or limit the use of land subject to periodic flooding. In California, counties may establish setback lines for residences along waterways.

This, of course, is only a very small sample of the ways in which a good zoning ordinance can help. With careful planning, emerging problems can often be avoided; urban growth can be guided to the benefit of both the town and countryside. (11)

PROGRESS

"Runaway urbanization" is an ever-present problem in modern American life. Fifteen years ago residents of the Baton Rouge area of Louisiana decided to tackle their "runaway urbanization" by a partial merger of their urban and rural governments.

While not the perfect answer to all the problems of urban growth, Baton Rouge's consolidated city-parish (county) government has proven one way for rural and urban residents to work out mutual difficulties together, according to a recent study made by the Louisiana Agricultural Experiment Station under a cooperative agreement with ERS economists.

The new plan of government drawn up in 1949 set up two separate governing councils, one for the city and the other for the parish, with memberships overlapping and a single mayor-presi-

dent. This arrangement has been quite successful in coordinating rural, urban and industrial area government in Baton Rouge.

The 1949 charter also provided for the consolidation of several important staff functions—finance, purchasing and personnel administration—as well as for a city-parish departments of public works and planning.

The consolidated planning department, which has been highly successful, has handled some of the most crucial tasks for the new government—developing master plans for zoning, transportation, drainage and sewage, and public lands for schools and parks.

The boundaries of Baton Rouge's metropolitan area were redrawn in 1950 so that the new city limits included virtually all of the densely populated portion of the rural parish. Industrial areas within the new city limits were delineated in such a way as to exclude all residential property.

City residents paid all parish property taxes and also were assessed a general city levy to meet the costs of specifically urban services like garbage collection, street lighting and so forth. Industrial areas were exempted from the city taxes—with the understanding that they would provide all their own services of a municipal type. If they failed to do so, they could be reclassified as strictly urban areas with all city taxes levied as well.

In 1958 the city-parish planning commission developed a parish-wide zoning ordinance which regulated land use for the whole Baton Rouge area. While the latter ordinance is still not very effective beyond the suburban area, it does provide a set of uniform land use regulations for both city and rural areas to follow.

Transportation was another of the major headaches confronting city-parish planners in 1949. When the new government took over, it inherited a reasonably good road system within the city

but only a rudimentary system of gravel and dirt roads in rural areas. Roads for the 25 square miles of suburbs newly incorporated into the city and access roads to the adjacent industrial zones were the major problems.

The master street plan for the city received the most emphasis in the early years of consolidation. But in 1956 a comprehensive parish road plan was enacted which not only helped ease the flow of rural-urban traffic but paved the way for major road systems in the rural area. Today the rural portion has over 60 miles of black top roads, about 340 miles of gravel roads and some 10 miles of dirt roads.

Setting aside sufficient land for public uses (schools, parks, etc.) was another major concern of city-parish planners. In 1955 an ordinance was passed which required that subdivision builders in the suburbs reserve sites for public uses. And a year later, the planning commission, in conjunction with the parks commission and the East Baton Rouge Parish School Board, worked out a master plan for schools, parks and playgrounds which would meet needs anticipated for 1970.

Six new city schools and 11 parish schools have been built in areas designated by the master school plan. And where only two public parks existed before consolidation, today the parks commission maintains 26 parks and playgrounds. Almost every residential area in the parish now has reasonable access to public recreation facilities.

Because of the rapid expansion of public services, per capita expenditures for government services have been greater for Baton Rouge residents since consolidation than they were before. However, without consolidation, the increases probably would have been even more pronounced since the benefits of coordinated local government services and purchases would have been lost. (12)

From Vandalism to Value of Property, Study Lists References on Recreation

The typical American male spends about 245 days of the year working to support his family, about 49 weekends doing chores around the house, and two weeks in the summer trying to get the family into frequently overcrowded public recreation areas.

The farther east the family lives, the more chance they will share the wide open spaces with a traffic jam of fellow escapists. Only one-fourth of the public recreation area is outside the West, but 85 per cent of the population lives in these other states.

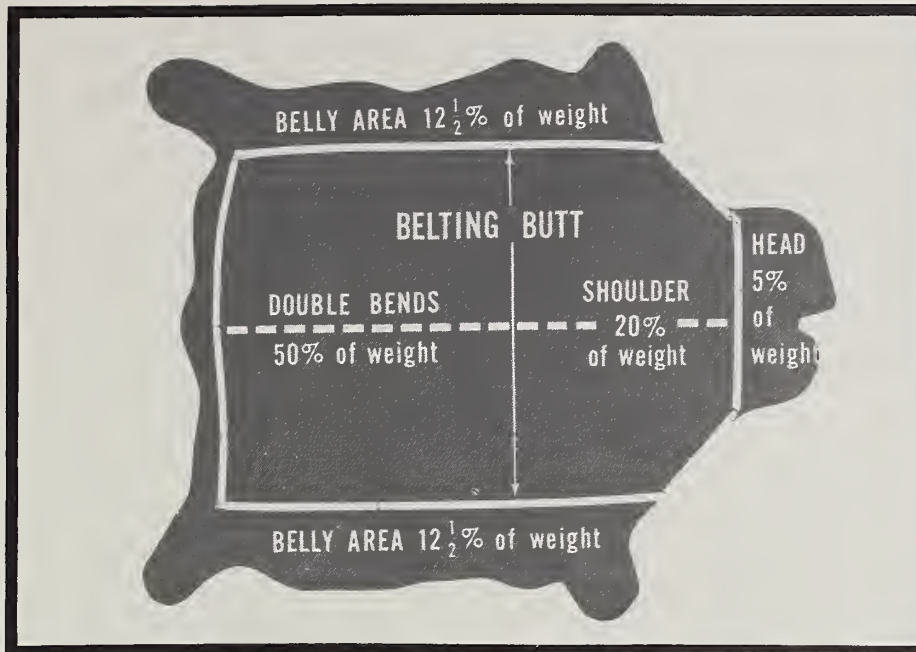
This, of course, is where the farmer can and often does come in—to his profit and to the pleasure of the vacationist. But the profit for the farmer who wants to use some or all of his property for a recreation enterprise depends on careful planning as much as turning crops into cash.

With such planning, a farmer may be able to add to his income. And tourists also provide new jobs in the entire community.

The Economic Research Service, in cooperation with the Purdue University Agricultural Experiment Station, has just published a survey of current research that should help to take much of the guesswork out of planning for recreation.

The study is a summary of current research on recreation projects. The annotated bibliography ranges from the theoretical in such studies as "Methods of Measuring the Demand for and Value of Outdoor Recreation," to the specific and practical in a bulletin on "Vandalism, How to Stop It."

Single copies of "Summaries of Selected Publications on Rural Outdoor Recreation," ERS-190, are available free from the Division of Information, Office of Management Services, U.S. Department of Agriculture, Washington, D.C. 20402. (13)



SEGMENT TO SELL: Leather goes to market as an awkward, hard to handle commodity of uneven quality. A new cutting pattern suggested by ERS specialists could increase returns for the entire hide-leather industry. Main feature is removing the belly areas—possibly even the shoulder—before tanning. Though the original weight is drastically reduced, tests indicate improved tanning yield and efficiency, along with lower costs for cutting shoes, would make it possible to pay the same price for trimmed segments as is now paid for whole hides. Segments diverted from the tannery could be used in such new markets as casings for processed meats or a feed supplement.

HIDES: MORE PROFIT FROM THE PARTS?

The unpredictable American consumer is driving the leather industry into a box.

While the typical American enthusiastically increases the amount of beef he buys year after year, he purchases fewer leather shoes.

The cattleman is left to produce more beef for the kitchen as the packers or tanners wonder where to get rid of the mounting supply of hides and leather.

Since World War II, the production of leather shoes has increased less than the population, while the percentage of shoes made with materials other than leather has been on the rise. Markets for other leather products have also declined. And imports of leather products have gone up.

Specialists in the Economic Research Service suggest that one way out of this leather box is to give the product different market characteristics. They would help accomplish this goal with a new trim pattern for hides. The trim eliminates the low quality portions of the hide right at the start of the marketing process.

The argument runs like this: The high quality, center part of the hide would have no trouble

finding takers in the all-important shoe market. The low quality, low return portions that would not cover curing or tanning costs would be trimmed from the hide. And these low quality portions, could, in fact, be processed and sold at a greater profit for non-leather uses such as casings for sausage or as feed supplement.

In their exploration of a more competitive position for leather, the specialists ran controlled experiments on the tanning of seg-

mented hides during the summer of 1964, using three experimental lots of hides.

The control lot consisted of conventional sides, or two halves of a hide. The second lot, termed crops, consisted of sides with the bellies, shanks and head areas removed. The third group, called bends, were crops minus the shoulder areas.

By weight, a cropped side is about 67 per cent of a conventional side and a bend is half the weight. Although the original weight is drastically reduced, the tests indicate that improved tanning yield and efficiency, along with lower shoe cutting costs, make it possible to pay the same price for the trimmed hide as is now paid for the whole hide.

The big difficulty posed by hides as a raw product for manufacture is the irregular shape and quality.

Not only does the shape complicate processing—from tannery to shoemaker—but the variable quality within a hide adds to the work and cost of turning the hide into a shoe. Belly areas are thinner than the rest of the hide and have a different fiber orientation than the bend portion. Shoulders are apt to be wrinkled or scratched.

Meat packers get about \$365 million a year for the hides and skins from livestock slaughter. But it is getting harder to market the increasing supply of hides by way of the shoemaker, who is being wooed with increasing success by manufacturers of leather substitutes.

One problem for the hide and leather industry is tied to a long-standing attitude: Loss of area equals loss of profit. All trimming practices have attempted to minimize weight or area loss.

An ERS study suggests that a new, more drastic trimming pattern for hides could streamline marketing procedures, lead to more profits. (15)

According to the specialists, by getting rid of these marginal areas, the remaining rectangular bend would not only be of uniform high quality but would be far easier and less costly to tan and cut into shoes.

Furthermore, the new trimming pattern calls for a one-time trim at the packing house before the hide goes to the curing cellar. Hides today may be trimmed a little at every step of their way through the marketing system—in the packing house, entering and leaving the hide curing cellar, at the tannery, during the final grade-sort of the hide, and once again at the shoe factory.

The usefulness of the new trim pattern shows up particularly in the weight and grade of leather. In today's market, the demand is strong for heavyweight leather for unlined shoes and moccasins. During the tests, conventional sides produced less than 50 per cent of the heavy leather; about 80 per cent of the cropped sides did. All the bends produced heavyweight leather.

The bends also scored noticeably better on grade. During the tests, 63 per cent of the bends graded No. 1, 2 or 3, while only half the sides or crops graded that high.

The rectangular pattern also steps up efficiency in the tannery by as much as 12 to 15 per cent without changing equipment or labor requirements. For example, pasting four cropped sides increased pasting capacity by 67 per cent and pasting bends doubled the capacity of the paster machine. Dropoffs inside the dryer were eliminated and starch use was not increased.

Other steps in the tanning operations are also affected. For instance, there is a significant improvement in machine efficiency when the new cutting pattern of hides is used in tanning.

The advantages of the trimmed hides also extend to the shoe manufacturer.

Cutting tests in the factory indicated that large patterns for work shoes yield about as many shoes on the bends. But smaller patterns, such as for oxfords, produce a yield 7 to 10 per cent greater than they would on a conventional side of leather. Children's shoes may cut as high as 12 per cent above normal expectations.

Also, the rate of cutting can be speeded with the trimmed hide, especially for the larger shoes.

And shoe manufacturers, when queried, said the bends required less skill on the part of cutters. The bends were easier to handle and helped to produce a more uniform quality shoe. (14)

Using Motors Properly Sized for Job Helps Cut Costs for Cotton Ginners

Some cotton ginners in the Southwest and Far West could save as much as 11 cents per bale in power costs by more efficient use of their electric motors.

A cooperative ERS-ARS study of power utilization in ginning plants in California, Arizona, New Mexico and west Texas shows that many ginners in these states are "underloading" their electric motors. This results in unnecessarily low power factor levels (that is, the relation of useful energy to total energy input). With the help of charts developed in this study, ginners can now determine their power requirements and the power factor levels for their electric motors.

More desirable power factor levels can be established and maintained by installing the proper size motor for the job, advancing motors to heavier jobs, adding corrective devices to motors already installed, or some combination of these alternatives.

Net savings from improving power factor levels by these means could easily amount to \$1 million or more annually for gins in the four state area. (16)

Cigarette Sales Recoup Early '64 Loss; FTC Sets Package Warnings for July 1

The U.S. tobacco industry turned out fewer cigarettes—and Americans smoked fewer packs—in 1964 than in 1963.

U.S. smokers puffed an estimated 508 billion cigarettes last year, 3 per cent fewer than in 1963. However, most of the year's decline came in the first quarter, immediately following the Surgeon General's report on cigarettes and health. By year's end, consumption appeared to be near the record level of late 1963.

While total cigarette use in 1964 was below the previous year, use of cigars and cigarillos was up 24 per cent for an all-time high of 9 billion. This was the most cigars Americans have ever smoked in any one year. The previous high was in 1920—8.5 billion.

There was also an increase, though smaller, in use of pipe tobacco. But sales of snuff continued to fall as they have in recent years.

Supplies of the big-volume cigarette tobaccos—flue-cured and burley—are backing up in warehouses. There was already a large carryover from the big crop years of 1962 and 1963. The carryover at the end of the 1964/65 marketing year will increase further because 1964 production outstripped requirements.

As of July 1, cigarette packages must carry health warnings if regulations of the Federal Trade Commission become effective as scheduled.

However, Congress may need time to consider appropriate labeling legislation. This view was expressed last June by the House Committee on Interstate and Foreign Commerce.

Based on indications in late 1964, cigarette consumption will probably edge upward in 1965 and, for the year as a whole, exceed 1964. (17)

Dairies Can Marshal Mandatory Data To Spot Weaknesses in Own Operations

All that required paperwork in the dairy industry has a silver lining that isn't being explored to the fullest.

Dairy plant managers, like those in other industries, have to compile a host of facts and figures for tax agencies, federal order administrators, stockholders, health departments and other groups.

A new study shows how managers can use the statistics compiled for other purposes to pinpoint weak spots in their own operations. The trick is to organize the data so that they provide a comprehensive picture of key phases of the business.

For example, a record of the average plant labor cost per hundredweight of milk processed shows when and where labor costs climb above those of past months or above an acceptable standard. It's a check on labor productivity, wage levels and overtime worked.

The butterfat in milk bought from farmers that is lost in processing is money out of the milk dealer's pocket. Records kept on the percentage of butterfat lost can be compared with industry standards or the plant's own past performance as part of a fat-loss control program.

Figures kept on the average daily sales, per customer by route, can be used to spot low volume, unprofitable customers who should be weeded out.

A record of bad debts as a per cent of sales indicates the firm's success or failure in collecting and can be used as a credit control.

Figures on the turnover of net worth show how actively capital is being used. Net profits compared with tangible net worth indicate the return being realized on capital investment.

There are many other statistics that can be similarly used to gauge the efficiency of dairy operations. However, the study rec-

ommends that dairies be selective in setting up a management information program. Too detailed a program will cost more than it saves.

In the two bottling plants and two distribution centers studied, the information system turned up a potential increase in earnings of 105 per cent at one distribution center, 78 per cent at the other. Information on accounts receivable revealed a potential increase in cash of over \$14,000 at one location, \$37,000 at another. Data on butterfat losses showed a potential savings of over \$1,000 a month.

No extra employees were needed to compile the added data. (18)

Delivering Feed Can Cut Into Profits, Especially Long Hauls for Small Sales

Customers expect service these days—and farmers are no exception. Having their feed delivered in bulk right to the barn door saves them time and effort. On the other hand, delivery can run up the feed dealer's costs.

Whether the feed dealer adds a delivery charge onto the farmer's bill or shoulders the expense himself is up to him. Either way, he ought to know what it costs him to deliver feed.

A recent study involving the

feed industry in the New England States contains some facts and figures on feed delivery expenses. As would be expected, long hauls with small loads were the most costly. Trucking three-ton loads to farms within a 35 mile radius averaged out to \$7.40 per ton annually. In contrast, 12-ton loads hauled within a 15-mile zone cost \$1.28 per ton.

These cost figures were developed using a theoretical feed manufacturing firm with a volume of 50,000 tons of bulk feed per year. The feed was assumed to be delivered within three zones—15, 25 and 35 miles from the mill. Four sizes of loads, 3, 6, 9 and 12 tons, were calculated. To make figuring the costs simpler, researchers assumed that only one customer would be served on a trip regardless of the size of the load.

Delivery costs for a year were broken into driver labor, truck expenses and office or other overhead charges. Labor was figured at \$2.25 an hour for a 10-hour day, 5-day week and included the time spent in loading, in travel and in unloading the feed.

Loading and unloading time depended on the number of trips made and the number of tons delivered. Travel time also was keyed to the number of trips as well as the miles covered. (19)

AVERAGE TOTAL COST PER TON FOR BULK FEED DELIVERY				
(Firm delivering 50,000 tons annually)				
Size of load in tons	Service radius	Trucks required	Total costs	Average cost per ton
	Miles	Number	Dollars	Dollars
3	15	10	\$186,471	\$3.73
	25	13	278,339	5.57
	35	16	370,205	7.40
6	15	6	104,830	2.10
	25	8	152,496	3.05
	35	9	196,691	3.93
9	15	5	78,782	1.58
	25	6	109,404	2.19
	35	7	140,028	2.80
12	15	4	64,017	1.28
	25	5	87,854	1.76
	35	6	111,689	2.23

“Musts” for a Successful Processing Plant Are Good Markets, Management

Question: What makes a fruit and vegetable processing plant profitable? **Answer:** Sufficient raw products, management and markets.

ERS economists have been exploring the essentials for efficient fruit and vegetable processing in a number of areas throughout the U.S. From these studies they have developed a list of “musts” for prospective processors.

Scale of operation. A new firm must be large enough to bring costs in line with other processors. ERS economists agree that, in general, a plant should be able to handle about two tons an hour of “hand-paced” vegetables like asparagus and broccoli. For “free-flowing” commodities like peas and beans, the minimum input should be around two and a half tons per hour. Also, the processing plant should operate not less than 650 to 750 hours each season.

Supply of fruits and vegetables. Processors must be able to figure on an adequate supply of fruits and vegetables, uniformly good in quality, at competitive prices throughout the processing season. For example, if a firm is to operate for 900 hours in a season and has a capacity of two and one-half tons per hour, at least 2,250 tons of fruits and vegetables are needed to operate efficiently throughout the season.

Capital requirements. According to the ERS studies, the minimum initial investment in plant and equipment generally ranges from \$400,000 to \$750,000, depending on the kinds of fruits and vegetables handled and the size of the plant. Minimum requirements for operating capital for the season, with one inventory turnover, range from \$1 million to \$1.5 million.

Top management. Experienced management is a must in fruit

and vegetable processing and getting it is usually expensive. Know-how is essential in scheduling the flow of fruits and vegetables into and through the plant, in providing the technical skills for the plant and for its operating efficiency and, finally, in keeping the processed pack in line with market needs or demands.

Markets. A new firm is generally confronted with three alternatives for marketing its pack. First, it can enter into a contractual agreement where it packs for an already established processor. Second, the new plant can pack under the private label of food chains or food distributors. Or, finally, it can try to break into the market with its own brand name, which involves direct competition with existing firms.

ERS economists suggest that plants tending toward the minimum scale of operation are not likely to find it economical to do their own selling. Neither are they likely to be able to afford the promotion and advertising required to establish a new line of products. Consequently, selling through food brokers probably would provide the most effective market representation for a new, unadvertised line of processed fruits and vegetables. (20)

Broiler Prices Fluctuate With Season, Supplies and Advertising Campaigns

Counting chickens before they hatch, or at least counting the number of eggs set for breeder flocks, is a pretty good way for buyers and sellers to predict what broiler market supplies will be—even 11 months ahead of time. But one major question remains: how to determine what demand and prices for broilers will be in the months ahead?

Currently ERS economists are conducting a study to determine the main causes of instability in broiler sales volume and prices. Preliminary findings reveal that

the average monthly U.S. farm price for broilers is primarily affected by:

The season of the year. Data for 1956-61 show that broiler prices do vary between seasons. More outdoor cooking and picnics mean more demand for chicken in the summer months. Consequently, prices are actually higher in relation to market supplies during May-September than at other times in the year.

Supplies. Changes in the supply of broilers have roughly the same influence on price within each season. The U.S. farm price changes about one-fourth cent per pound for each change in supply of one million birds.

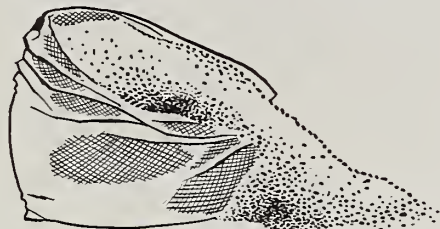
Prices during the preceding month. Average prices during the preceding month exert a positive influence on average monthly prices during January-August. Apparently buyers and sellers of broilers use the previous month's price as a gauge for setting the current price in the early months of the marketing season. Consequently, each one cent change in price during the previous month will likely cause a one-tenth cent change in the same direction the following month.

Amount of advertising during the previous month. Apparently retailers increase their advertising during periods of declining broiler prices. These prices tend to stabilize or even move upward during the month immediately following.

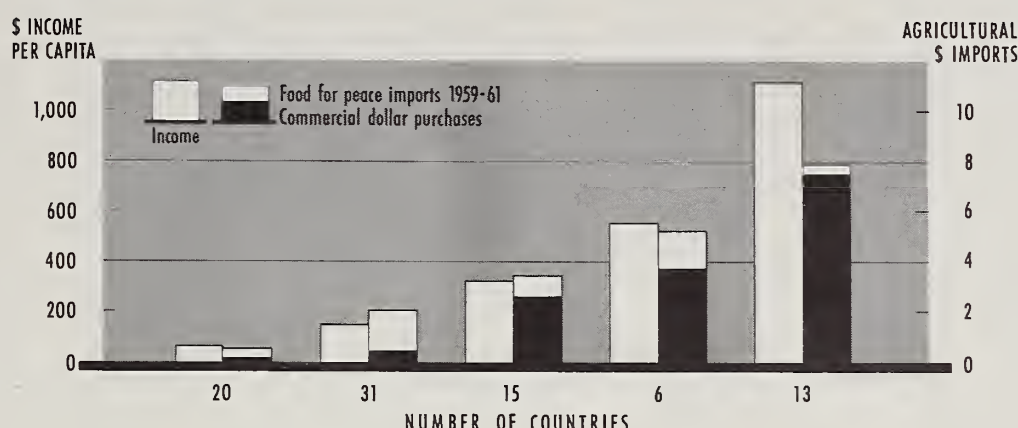
Based on other research which shows that broiler sales double or sometimes even quadruple when featured by retailers, ERS economists figure that the increase in the price of broilers during months after heavy advertising campaigns is a response to reduced supply as a result of the advertising effort.

However, since retailers also tend to decrease their advertising when prices increase, supplies build up and cause prices to decline again. (21)

NATIONS SWITCH FROM U.S. FOOD AID TO DOLLAR PURCHASES AS INCOME GOES UP



U. S. DEPARTMENT OF AGRICULTURE



NEG. ERS 3414-64 (12)

P. L. 480: SHIP TO SHARE AID

How will people spend added income as food aid spurs economic growth? This study shows 56 nations average 21 per cent more U.S. farm imports, in trade not aid, for every 10 per cent increase in per capita income

The P.L. 480 program currently ships U.S. food aid, mostly surplus commodities, to well over 100 countries. Cost to the United States each year: \$1.5 billion plus.

Are we getting our money's worth? Aside from the humanitarian aspects, does food aid really benefit the recipient country—or the U.S. farmer and taxpayer?

The short-term answer is unquestionably *yes*. Some 25 to 30 million acres now produce the foods exported under government programs. It's been estimated that America's farmers would have to take perhaps half these acres out of production if the P.L. 480 program didn't exist.

Most P.L. 480 foods are sold to the recipient country, payable in its own currency. While about three-fourths of this money is earmarked to help finance the country's economic development, the other fourth is used by the U.S. to help defray its own embassy and related expenses within the country.

Thus, the nation struggling to build its economy gets needed funds. And the American tax-

payer benefits because we are paying our local bills in the country's own currency which usually can't be converted to dollars.

Even more significant, however, are the long-term advantages of the P.L. 480 program.

A new ERS study shows how and why food aid today will generate dollar trade in coming decades.

The cycle is relatively simple. Food aid spurs economic development, which creates more jobs, which raise per capita income.

But how will people spend this added income? To find out, the new study explores the income-trade relationships from 1938 to 1959-61 both for the developed world—basically North America, Europe, Japan, Australia and New Zealand—and for the less developed world—essentially Latin America, Africa and Asia. Specifically, the study measures the elasticity of imports, both food and nonfood, for some 81 countries.

Elasticity of imports is simply a way of gauging how much more

imported goods people will buy as their incomes rise. If a 10 per cent increase in per capita income generates a 10 per cent increase in imports, the import elasticity is simply 1.0. In practice, the import elasticity is usually above or below 1.0.

Looking at *total* imports for 1959-61—industrial and consumer goods as well as farm products—the study finds that the 25 developed nations studied tend to import more from the U.S. than from the world at large as personal incomes rise. Elasticity of total imports from all sources in 1959-61 was .96—less than the increase in income; that of total imports from the U.S., 1.09.

This elasticity of 1.09 includes some foreign aid shipments to such developed countries as Yugoslavia and Greece. Straight commercial sales for dollars show an even higher elasticity of 1.32.

Stated somewhat differently, this means that for every 10 per cent increase in per capita income, the developed world tends to buy 13 per cent more goods from the United States.

But what's the situation for agricultural products alone? The study shows that the developed world, already adequately fed, imports from all sources only 9.2 per cent more farm products for every 10 per cent increase in personal income. From the U.S., increases in total farm imports (including aid) are even smaller—6.9 per cent. But U.S. dollar sales of farm products, 14.2 per cent higher for each 10 per cent increase in income, top our 13 per cent increase in dollar sales of total exports.

Summing up the import picture in these 25 developed nations, we find that they tend to buy more of all goods from the U.S. than from all other sources for every increase in per capita income. And for every income increase, they tend to take more U.S. farm products than they do our industrial and other goods.

However, U.S. markets for farm products in Western Europe and the other developed areas aren't expected to expand as rapidly in the years ahead as in the 1938-61 period, which includ-

ed a world war and a long post-war recovery. Western Europe, for example, will doubtless become more self-sufficient in wheat, livestock and other commodities we now sell there.

Major market expansion for U.S. farm products lies in the less developed world where people will strive to improve their diets as they make more money.

Actually the outlook for U.S. agricultural exports is better than for total exports. The new ERS study averaged out trade and income figures for 1959-61 for 56 less developed nations just as it did for the 25 developed nations. It found that for every 10 per cent increase in per capita income, these 56 countries import on the average 15.2 per cent more goods of all kinds from all sources. Imports of all kinds from the U.S. go up less, only 8 per cent; but U.S. dollar sales, with an import elasticity of 1.07, climb 10.7 per cent.

However, imports of *agricultural products* from all sources climb 16.9 per cent. This suggests that the less developed nations,

whose people aspire to better diets, import more foods than they do other goods when incomes rise.

Total farm imports from the United States—both aid and dollar sales—climb less, 8.1 per cent, for every 10 per cent increase in per capita income.

Yet, dollar sales of U.S. farm products go up 21 per cent (elasticity, 2.10), well above the import elasticity for farm imports by the less developed nations from all other sources. At our 1959-61 export level, this increase represents added sales of \$160 million for every 10 per cent increase in per capita income.

In other words, as income goes up the less developed countries take more U.S. farm products than does the industrialized West—and most of the imports are not aid shipments but dollar sales.

This means, then, that the less developed world is a vast, virtually untapped market for U.S. farm products. The study shows this world will buy U.S. foods—often in preference to those of other exporting nations—if its people have the income to buy. P.L. 480 food shipments, by spurring economic development and creating new jobs, help to provide this needed income.

Japan, of course, is the most graphic example of what a vigorous people, on their own initiative and with some U.S. assistance, can accomplish.

From 1954 to 1957 food aid accounted for about 30 per cent of Japan's agricultural imports from the U.S. By 1962 virtually all U.S. aid had been phased out.

In the meantime Japan had become top dollar market for U.S. farm exports.

Between 1938 and 1961, U.S. exports of all kinds to Japan increased 6.1 times, from \$240 million to \$1.7 billion. U.S. agricultural exports went up even more in fact, 9.3 times, from \$44 million to \$458 million.

Today Italy, Spain and Venezuela are nations with growing

COUNTRIES BUY MORE U.S. GOODS AS PER CAPITA INCOME RISES

(1959-61 average)

Region	Income per capita	All imports per capita from:		Agricultural imports per capita from:		
		All countries	U.S. share	All countries	U.S. total share	U.S. share (dollar sales)
	Dollars	Dollars			Dollars	
Developed						
Western Europe						
European Economic Community	855	158.81	18.34	57.89	6.27	5.78
European Free Trade Association	1,019	229.02	21.37	87.63	7.53	6.90
Other	281	48.54	6.83	10.91	3.28	.71
North America						
Canada	1,558	296.26	202.40	140.11	24.35	24.30
United States	2,289	83.45	—	30.51	—	—
Other developed						
Japan	347	41.45	14.27	16.34	4.91	4.69
Australia, New Zealand and Republic of South Africa	751	140.81	22.00	46.80	1.94	1.87
Total	700	132.54	22.88	48.13	6.09	5.27
Less developed						
Africa	107	33.83	3.31	6.11	.86	.19
Asia (excluding Communist Asia)	110	15.61	2.79	2.93	.99	.28
Latin America	282	37.04	16.18	6.37	2.33	1.74
Total	111	22.38	5.10	5.08	1.19	.51

per capita incomes in which U.S. dollar markets have expanded considerably.

There will undoubtedly be some shifts in the types of farm commodities other countries will buy from us as their incomes grow. For instance, people tend to substitute meat for bread when they can afford it.

A major objective of many developing nations is to produce their own livestock for meat. It's cheaper in the long run to produce meat than to have to import it, even if feed still has to be imported.

Thus, American farmers can expect to sell more feed grains but less meat and such food grains as wheat in the years ahead.

However, if the import elasticities of 1959-61 don't change, U.S. farm exports should run over \$9.5 billion by 1980. That's \$3.4 billion more than we exported in fiscal 1964, which at \$6.1 billion was a full billion better than 1963.

For this kind of return, \$1.5 billion a year now for P.L. 480 aid is a small investment in developing our future cash markets. (22)

Higher Incomes in Developing Nations Put Pressure on Marketing System

A dollar added to per capita income in a developing country may be a mixed blessing. That extra dollar enables people to buy more food. But if there is too little food to meet the demand or if there is a bottleneck in the marketing system, the additional dollar can spell trouble for a development plan. Food prices often soar, leading to national inflation. More food may have to be imported, using much needed foreign exchange. At worst, food riots can ensue.

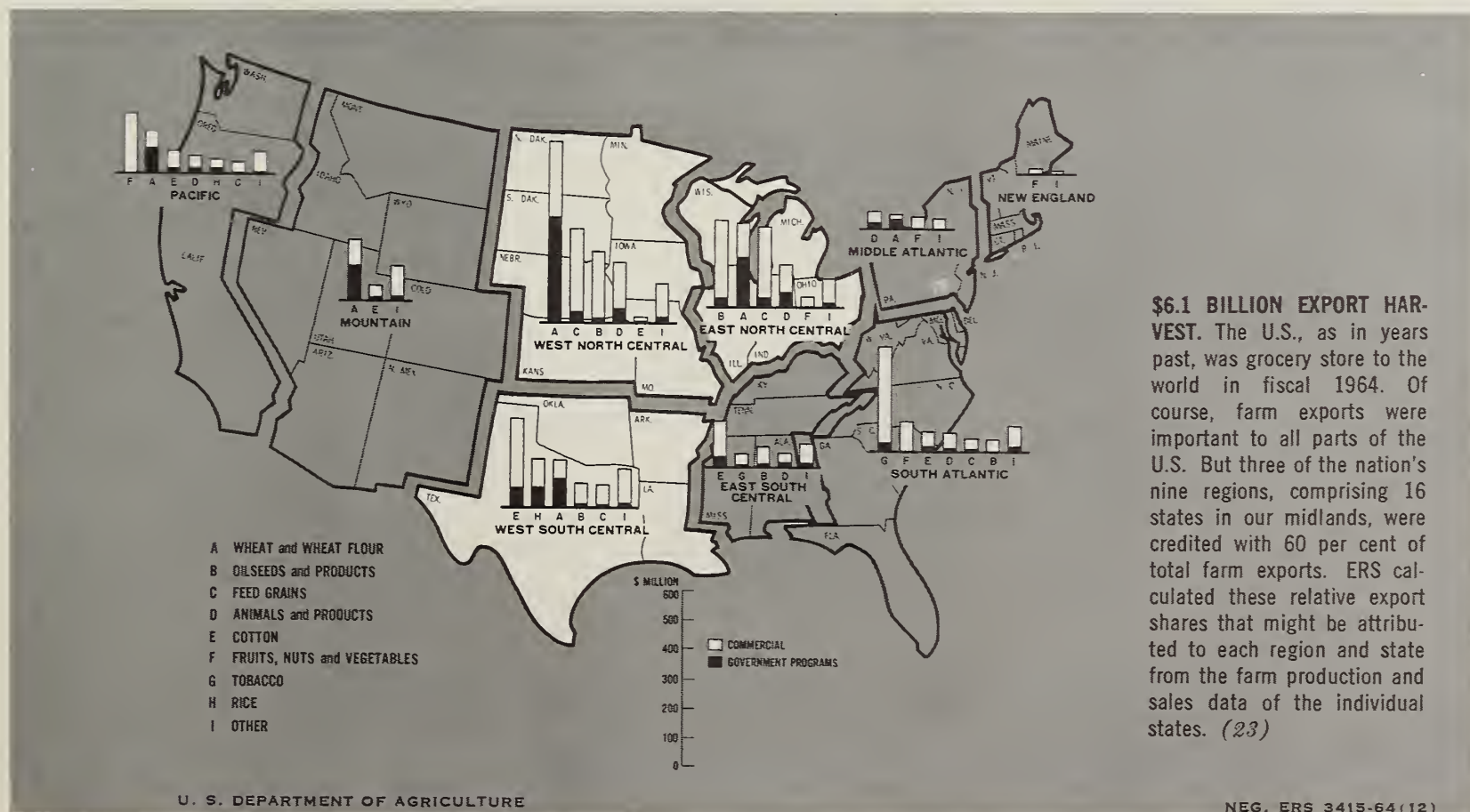
Highly important to government planners in an expanding economy is a measure of the elasticity of demand for food passing through the marketing system. ERS economists have just completed a study which emphasizes how rapidly the demand for food sold through retail food stores rises in the early stages of economic growth.

Why is this? As a nation develops, one of the first things that

happens is a migration of people from rural to urban areas. And people in cities can't grow their own food. The result: A big increase in demand for food which has to pass through marketing channels en route from the farm to the consumers' kitchens.

But when those extra dollars added by development start pouring in, the pressure on the marketing facilities gets even worse. Anywhere from 40 to 90 cents of every extra dollar earned will be spent on food in developing countries. And the people in the cities spend a large proportion of their increased income on food which now passes through the marketing channels.

The ERS study points out that in the early stages of economic development, government officials can reasonably expect a 5 per cent increase per year in the demand for food. And what is perhaps even more significant, the demand for food which passes through the country's marketing facilities will be rising almost twice as fast as the demand for all food, including that grown and eaten on farms.



For example, if population and per capita income are both growing at 3 per cent a year, and if the average person spends about 70 cents of each extra dollar on food, the total demand for food will grow about 5 per cent a year. But at the same time the demand for food sold at retail may increase by almost 10 per cent.

Even at slower rates of growth, say with population increasing at 2 per cent and per capita income rising at only 1 per cent a year, consumers will want to spend 3 per cent more for food, and nearly 6 per cent more at retail.

Economic growth not only calls for more food but also for an expanded marketing system. When the average per capita income of a country is only \$50 a year, the demand for food at retail is only about 25 per cent of the demand for all food. But when incomes start to rise, the proportion of food at retail becomes a larger and larger proportion of the demand for all food, increasing to about 50 per cent at the \$200 per capita income level; to about 70 per cent at an income of \$500 per capita; and to around 85 per cent at \$1,000 per capita.

One important policy implication following from the ERS study is that governments which are planning economic development can expect rapid increases in food flowing through commercial marketing channels. They need to plan accordingly, improving and expanding the marketing system to handle the increased flows. (24)

Communist China Pushes Farm Output A Little Ahead of Previous Levels

It's going to be a good year, boasted the China News Service last summer, when forecasting the 1964 harvest.

But the Communist news agency couldn't foresee the bad weather that buffeted late maturing crops.

Thus, food crop production in 1964 may be no better than it was

in 1963, and possibly worse when the final tally is in. Even so, production should be somewhat better than the 1959-61 period. For one reason, the peasants, now working their private plots, are producing an increasing proportion of their food.

Despite continuous government persuasion, the country still hasn't fully recovered from the economic damage of the disastrous "great leap forward," launched in 1958, which tried to do too much, too fast.

Per capita production of food still lags behind the pre-1958 levels, though exceeding the 1959-61 period. And while diets in 1964 were well above 1959-61, both in the amount and quality of food available, the low-calorie diet is still below accepted minimum standards and may decline before another harvest.

The increases in per capita food production are, in fact, largely the work of private plots held by the Chinese peasants.

During 1964 grains were strictly controlled, but for other foods, the upper-income city dweller and a few of the more enterprising peasants enjoyed the fruits of more flexible rationing. Western observers noted lower prices for fresh milk, eggs and cold storage supplies of pork. Milk—canned and powdered—has moved into the free market.

In Shanghai, typical of the relatively more prosperous cities, consumers could take their full grain ration in rice, which they couldn't do before. They also found supplies of cooking oils somewhat less scarce.

But to maintain supplies, the government continued to import large quantities of grain. Since 1960 the nation has imported over 22 million metric tons of grain. Last year alone set a record for imports by the nation. The cost of the 1960-64 imports amounted to approximately \$1.5 billion.

With additional wheat shipments from Argentina, and from

Australia late in the year following new negotiations, deliveries during 1964 substantially surpassed 6 million metric tons. The contracts call for additional shipments this year; the Argentine contract extends into 1966.

The earlier agreement with Canada has two more years to run, and the Chinese also may take additional wheat from Australia and France. Official policy, at the same time, continues to call for exports of rice and soybeans.

What improvement in crop production there was last year was mainly the result of increased acreage and favorable weather for the crops harvested during the summer—before the weather took a turn for the worse.

With 6 per cent more land in winter wheat and good weather for most of the growing season, summer harvests were generally above 1963 levels for winter wheat and rapeseed.

Production of the early rice crop appears to have been substantially above the previous year's level, but the more important intermediate crop was held in check by reduced acreage and unfavorable weather at the beginning and at the end of the season in some areas.

The harvest of vegetables has been on the upswing for the past three years but Peking ordered a cutback in acreage in major areas.

Reports on soybeans, however, indicate a fairly good year. Acreage was up, yields were better and the total harvest exceeded the 1963 level. The same conditions prevailed for the other oilseeds—peanuts, rapeseed and sesame.

The Communist regime continued to push production of their main commercial crop, cotton. Estimates for 1964 indicate 4.5 million hectares (11,120,000 acres) were planted to cotton, up some 300,000 hectares from 1963. The figure is still short of the 1957-59 average by more than a million hectares. (25)

Nationwide Food Consumption Surveys Planned for Households and Individuals

This spring, the Economic Research Service will help USDA's Agricultural Research Service begin a nationwide study of food consumption, covering both households and, for the first time, individuals. Its purpose is to gather and analyze data on food consumption patterns and the nutrient levels of U.S. diets.

The survey of household food consumption will cover four seasons (spring through fall, 1965, and winter, 1966) and 15,000 representative families. The latest such survey was made in the spring of 1955.

Each homemaker will be asked about every type of food used in the household during the week preceding the interview. She'll be asked the quantity used, whether the food was purchased or obtained otherwise, and the prices paid. Also, researchers will ask about expenditures for food eaten away from home, age and sex of persons eating from household food supplies, their relationship to the household head, and the number of meals eaten. Food management practices such as canning and freezing will also be noted.

Thirteen thousand individual members of the households surveyed in spring 1965 will take part in another phase of the study: the first national survey ever made of the diets of individuals.

They will be asked about the kinds and amounts and costs of food eaten at home and away from home during the preceding day and the time of day and place at which the food was consumed.

Using this information, an analysis of the nutritive content of the food consumed will be made. Results will provide the basis for consumer educational programs. And finally, researchers will make an appraisal of the trends over the past three decades in food consumption and dietary

patterns in the United States.

Survey results will help guide farm and food policies. The data will be used for research on the demand for agricultural products. And the data will help in visualizing the potential of new foods and food processes, in developing new and improved uses for surplus foods and in conducting research designed to lower processing and distribution costs. (26)

Prepackaging and Distinctive Labeling Increase Sales of Florida Grapefruit

Judging from their purchases, food shoppers in Paterson, N. J., prefer their Indian River grapefruit packaged, not loose; and clearly labeled on the bag, not just on each piece of fruit.

In the spring of 1964, ERS researchers, in cooperation with the Florida citrus industry, arranged for test displays of size 96 pink seedless grapefruit in 16 retail food stores in and around Paterson.

All the test grapefruit, whether displayed loose or in packages, were stamped with a brand name and "Indian River," the name of a well established growing area in Florida, and were priced at six for 59 cents.

Consumers were offered the test grapefruit in a different way each week for four weeks: (1) loose only; (2) loose and in unlabeled plastic bags; (3) in unlabeled bags only; and (4) in labeled bags only.

The unlabeled polyethylene film bags contained an insert identifying the packer and giving the count of six per bag. The labeled bags gave this information on the bag itself plus the type of fruit, "Pink Seedless Grapefruit," the brand, and the origin of the fruit, "Indian River."

In every case, there were oranges and larger-size, nontest grapefruit nearby. The nontest grapefruit sales and orange sales stayed at a constant level, so the

sales chalked up for the packaged fruit were not at the expense of other citrus fruits. They were, instead, a net increase to grapefruit volume.

All the test displays of packaged grapefruit—labeled or unlabeled, alone or in combination with loose—chalked up higher sales than the control display with loose grapefruit only.

The increases over the sales of loose grapefruit amounted to: 63 per cent for the packages labeled "Indian River;" 38 per cent for the combination of loose and packaged (but unlabeled) fruit; and 28 per cent for the unlabeled bags displayed alone. (27)

Permanent Shrink Permits Perennial Stretch in Modern Cotton Fabrics

Just like the much fabled elephant, there's now a cotton that never forgets. The secret of this "memorable" fabric is a chemical that permanently shrinks the natural fabric. The "shrink" not only gives the cotton stretch but also provides it with a memory so that it always goes back to its original shrunken state, even after many washings and wearings.

Cotton, which was once considered a "plain Jane" fiber in textile manufacture, has been given a new and exciting look in recent years. Scientists of the Agricultural Research Service and of the textile and chemical industries have looked for and found a number of ways to improve and update cotton. And the U.S. consumer has a whole new array of cottons to choose from when buying his clothes or decorating his house.

For instance, ARS scientists have developed a number of treatments to make cotton fabrics oil and water repellent, mildew and weather resistant. And of special interest to householders is a flame-retardant treatment for fabrics. The treated fabric will char but won't burn. (28)

SPOT COTTON QUOTATIONS: THEIR RELATION TO SPOT VALUES AND TO AVERAGE DIFFERENTIALS. D. L. Pritchard, Marketing Economics Division. MRR-677.

During the 1959-60 season and to a lesser extent during the 1960-61 season, the quotations in most of the designated markets tended to lag behind price changes on the upward and downward movements. The relationships between the quoted and paid differentials for all markets and all time periods combined indicated the differentials quoted tended to be slightly narrower than those paid in 1959-60.

THE AMERICAN TEXTILE INDUSTRY: COMPETITION — STRUCTURE — FACILITIES — COSTS. L. D. Howell, Marketing Economics Division. AER-58.

This report presents data on changes in supplies, prices and consumption of American cotton and wool in relation to those for foreign-grown cotton and wool and for man-made fibers.

EFFECTS OF OVERSIZED MOTORS ON POWER COSTS IN GINNING COTTON. C. A. Wilmot, Marketing Economics Division, and D. M. Albersson, Agricultural Research Service. ERS-203.

This report concludes that overmotoring in cotton gins generally prevails throughout the Southwest and Far West. With the help of the charts published in this report, many ginners in these areas could reduce their power costs by improving power factor levels in their gin plants. (See page 14, this issue.)

FOOD SERVICE IN PUBLIC SCHOOLS. M. Kriesberg, Marketing Economics Division. MRR-681.

Approximately 2.8 billion lunches were served in the nation's public schools in 1962—an



recent publications

The publications listed here are issued by the Economic Research Service and cooperatively by the state universities and colleges. Unless otherwise noted, reports listed here and under Sources are published by ERS. Single copies are available free from the Division of Information, OMS, U.S. Department of Agriculture, Washington, D.C. 20250. State publications (descriptions below include name of experiment station or university after title) may be obtained from the issuing agencies of the respective states.

increase of about 40 per cent over the 1957 school year. Cash receipts from the sale of lunches to pupils enrolled in public schools totaled an estimated \$900 million in 1962. (See December 1964 Farm Index.)

FRESH POTATO TRANSPORTATION TO LARGE MARKETS FROM FIVE MAJOR PRODUCING AREAS. I. W. Ulrey, Marketing Economics Division. MRR-687.

This report describes the extent to which rail and truck transportation factors have contributed to the change in the relative importance of the five major potato producing areas in California, Idaho, Maine, New York and North Dakota-Minnesota.

COORDINATING FLUID MILK SUPPLIES IN THE OKLAHOMA METROPOLITAN MILK MARKET. F. A. Lasley, Marketing Economics Division. MRR-686.

Central facilities to process the excess milk from six representative Oklahoma handlers could be operated at less than half the cost of operating individual facilities. Also, intercity transfer costs could be reduced by 15 per cent through central supply coordination of producers' milk reserves, according to the results of this study. (See January 1965 Farm Index.)

PACKING MATURE GREEN TOMATOES: COSTS, EFFICIENCIES, AND ECONOMIES OF SCALE IN THE LOWER RIO GRANDE VALLEY OF TEXAS. R. W. Bohall, R.O.P. Farrish and J. C. Rodany, Marketing Economics Division. MRR-679.

In an effort to increase volume and extend the operating hours during the season, packing sheds may emphasize vertical integration or control over production by means of contracts, limited or extensive financing of production, or ownership of acreage. This competition for more volume and a longer season will continue to exert a downward pressure on unit costs.

THE PILOT CROPLAND CONVERSION PROGRAM—ACCOMPLISHMENTS IN ITS FIRST YEAR, 1963. J. Vermeer and R. O. Aines, Farm Production Economics Division. AER-64.

This is a report of a study of the 1963 Pilot Cropland Conversion Program (CCP) in five areas after its first year of operation. Except in Mississippi, 1962 crop yields on participants' farms were below those on neighboring farms and the change in crop yields from 1962 to 1963 indicated that frequently the poorer land on participants' farms was put under agreement.

POVERTY IN RURAL AREAS OF THE UNITED STATES. A. R. Bird, Resource Development Economics Division. AER-63.

Of the programs to assist poverty-stricken families, three major categories are recognized to be of value: (1) Programs to provide training and employment opportunities mainly for rural people under 45 years of age who are ready and willing to work; (2) programs to develop local employment opportunities, particularly for "boxed-in" families whose heads are 45 to 65 years old; and (3) welfare programs that cater particularly to the needs of older people, invalids and perhaps female heads of low-income families.

RESOURCE REQUIREMENTS ON FARMS FOR SPECIFIED OPERATOR INCOMES. H. E. Barnhill, Farm Production Economics Division. AER-5.

The central purpose of this study was to determine the minimum complement of resources needed to enable farm operators of major types of farms to achieve specified levels of earnings for their labor and management.

ENTERPRISE COSTS AND RETURNS: SOUTHWESTERN LOUISIANA RICE AREA. A. R. Gerlow and T. Mullins, Farm Production Economics Division, in cooperation with J. R. Campbell, Louisiana Agricultural Experiment Station. La. Agr. Expt. Sta. D.A.E. Res. Rpt. 335.

This report should be useful in evaluating the economic advantages of alternative farm enterprises and of improved production practices suitable to the rice growing area of southwestern Louisiana. (See October 1964 Farm Index.)

DISTRIBUTION OF WORKERS IN SELECTED PROFESSIONAL OCCUPATIONS BY URBAN AND RURAL RESIDENCE, UNITED STATES, 1960. Farm Population Branch, Economic and Statistical Analysis Division. ERS-201.

In 1960 there were about 128 physicians and surgeons for every 100,000 persons in the U.S. The ratio was 178 in central cities of metropolitan areas and only 52 in the rural areas. The ratio of dentists to population was an average of 60 in urban centers and only 22 in rural areas. (See January 1965 Farm Index.)

OWNERSHIP CHARACTERISTICS AND DISTRIBUTION OF LANDOWNERSHIP IN THE EASTERN GREAT PLAINS. R. F. Boxley, Jr., Resource Development Economics Division. ERS-197.

This study provides data on the relationship of certain characteristics of rural land owners and the distribution of landownership. The factors examined are those related to the age, sex and marital status, tenure and occupation of landowners, and the way in which they acquired landownership.

ECONOMIC POTENTIALS OF IRRIGATION IN NORTH CAROLINA BASED ON SOIL CLASSIFICATION AND ACREAGE ESTIMATES FROM THE NATIONAL INVENTORY OF SOIL AND WATER CONSERVATION NEEDS. K. Gertel, Resource Development Economics Division. ERS-187.

In this study the soils of the Coastal Plain and Piedmont areas were placed into three major irrigation classes according to the likelihood of profitable irrigation. Procedures were also developed for adapting the general classification, based on all major crops for which the soil was suited, to a special class for tobacco.

Numbers in parentheses at end of stories refer to sources listed below:

1. G. D. Rodewall, Jr., D. K. Larson and D. C. Myrick, Dryland Grain Farms in Montana, Mont. Agr. Expt. Sta. Tech. Bull. 579 (P); 2. R. E. Freund, "Employment in the Final Manufacture of Supplies and Equipment Used by Farmers, 1950 and 1960," Mktg. and Trans. Situa., MTS-154 (P); 3. R. N. Van Arsdall, Processing and Distribution of Feeds for Hogs Produced in Confinement, Ill. Agr. Expt. Sta. AERR-72 (P); 4. Farm Mortgage Debt, FMD-3 (P); 5. W. G. Adkins, Projections to 1970 of Farm Numbers and Characteristics in the Blackland Prairies: An Application of Empirical Estimating Procedures, Dept. of Agr. Econ. and Sociol., A. and M. Univ. of Texas (M); 6. Rice Situation, RS-9 (P); 7. L. K. Bailey and E. E. Gavett, Some Farm Labor Problems—Current and Prospective Aspects (S); 8. J. R. Brake and M. E. Wirth, The Michigan Farm Credit Panel: A History of Capital Accumulation, Mich. Agr. Expt. Sta. RR-25 (P); 9. L. G. Burchinal and W. W. Bauder (SM); 10. E. D. Solberg, County Zoning in Public Land States in West and Hawaii (S); 11. E. D. Solberg, Master Planning for Resource Development (S); 12. W. C. Harvard, Jr. and F. L. Corty, Rural-Urban Consolidation: The Merger of Governments in the Baton Rouge Area, La. Agr. Expt. Sta. (P); 13. B. L. Green, Summaries of Selected Publications on Rural Outdoor Recreation, ERS-190 (P); 14. & 15. J. W. Thompson, An Evaluation of New Marketing Practices for the Side-Upper Leather Industry, ERS

(M); 16. C. A. Wilmot and D. M. Alberson, Effects of Oversized Motors on Power Costs in Ginning Cotton, ERS-203 (P); 17. Tobacco Situation, TS-110 (P); 18. E. M. Babb and M. A. Jacobson (SM); 19. R. L. Christensen and C. R. Burbee, Bulk Delivery of Feed in New England, N. H. Agr. Econ. Res. Mimeo. Ser. (M); 20. L. C. Martin, Economic Requirements for Successful Food Processing (S); 21. P. L. Henderson, Factors Affecting Demand for Broilers and Research Needs (S); 22. A. B. Mackie, Foreign Economic Growth and Market Potentials for U.S. Agricultural Products, FAER (M); 23. R. L. Tontz and A. D. Angelidis, "U.S. Agricultural Export Shares by Regions and States, Fiscal Year 1963-64," For. Agr. Trade, Nov.-Dec. '64 (P); 24. R. D. Stevens, Elasticity of Food Consumption—Associated with Changes in Income in Developing Countries, FAER (M); 25. M. R. Larsen, The Agricultural Situation and Crop Prospects in Communist China, 1964, FAER-20 (P); 26. "USDA to Make Nationwide Food Consumption Survey," USDA Press Release 4417-64 (P); 27. S. E. Brown, Fresh Grapefruit Packaged and Labeled Indian River—A Sales Test, ERS-212 (P); 28. P. B. Dwoskin, Research for Improved Family Living (S).

Speech (S); published report (P); unpublished manuscript (M); special material (SM).

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The Demand and the Price

Why study the demand for and prices of farm products? Who uses the results and how? What value are such studies to the consumer?

The answer to all three of these questions is that a correct theory of demand explains in principle how prices are actually made and how consumers respond to changes in prices and in their incomes.

In a developed economy like the U.S. the total demand for food is fairly stable. But farmers and food distributors still must know what both the short- and long-term demand for *individual* foods is likely to be—whether consumers are going to want more meat and fewer potatoes on their dining tables—so that production and marketing practices can be adjusted accordingly.

USDA's Economic Research Service has just published a report which explains in detail how demand and price analyses are made for a number of agricultural products.

The report includes a chapter on the relationship of total food consumption to retail prices and consumer income, shifts in demand for some agricultural commodities and the competition between individual products for part of the same market.

Single copies of F. V. Waugh's "Demand and Price Analysis—Some Examples from Agriculture," Tech. Bul. 1316, are available free from the Division of Information, Office of Management Services, USDA, Washington, D.C. 20250.

THE FARM INDEX

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